Contents

1 Electrical ratings

Table 2: Absolute maximum rating

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base voltage (I_E = 0)	-60	V
V_{CEO}	Collector-emitter voltage (I_B = 0)	-60	V
V_{EBO}	Emitter-base voltage (I_C = 0)	-5	V
I_C	Collector current	-1	A
I_{CM}	Collector peak current (t_P < 5ms)	-2	A
P_{tot}	Total dissipation at T_{amb} = 25°C	0.5	W
T_{stg}	Storage temperature	-65 to 150	°C
T_J	Max. operating junction temperature	150	°C

Table 3: Thermal data

Symbol	Parameter	Value	Unit
$R_{thj\text{-}amb}$ (1)	Thermal resistance junction-amb max	250	°C/W

Notes:

(1)Device mounted on PCB area of 1 cm^2

2 Electrical characteristics

(T_{case} = 25°C unless otherwise specified)

Table 4: Electrical characteristics

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector cut-off current (I_E =0)	V_{CB} = -60 V			-0.1	µA
I_{EBO}	Emitter cut-off current (I_C =0)	V_{EB} = -5 V			-0.1	µA
$V_{(BR)CBO}$	Collector-base breakdown voltage (I_E = 0)	I_C = -100 µA	-60			V
$V_{(BR)CEO}$(1)	Collector-emitter breakdown voltage (I_B = 0)	I_C = -10 mA	-60			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage (I_C = 0)	I_E = -100 µA	-5			V
$V_{CE(sat)}$	Collector-emitter saturation voltage	I_C = -0.5 A I_B = -50 mA			260	mV
		I_C = -1 A I_B = -100 mA			480	mV
$V_{BE(sat)}$	Base-emitter saturation voltage	I_C = -1 A I_B = -100 mA			1.3	V
h_{FE}	DC current gain	I_C = -0.5 A V_{CE} = -2V	180		560	
		I_C = -1 A V_{CE} = -2 V	45			
		I_C = -2 A V_{CE} = -2 V		30		
	Resistive load					
t_{on}	Turn-on time	I_C = -1.5 A V_{CC} = -10 V I_{B1} = -I_{B2} = -150 mA $V_{BB(off)}$= 5 V		220		ns
t_{off}	Turn-off time			500		ns

Notes:

(1)Pulse test: pulse duration = 300 µs, duty cycle ≤ 1.5 %

3 Package mechanical data

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: www.st.com. ECOPACK® is an ST trademark.

3.1 SOT-23 mechanical data

Figure 2: SOT-23 mechanical drawing

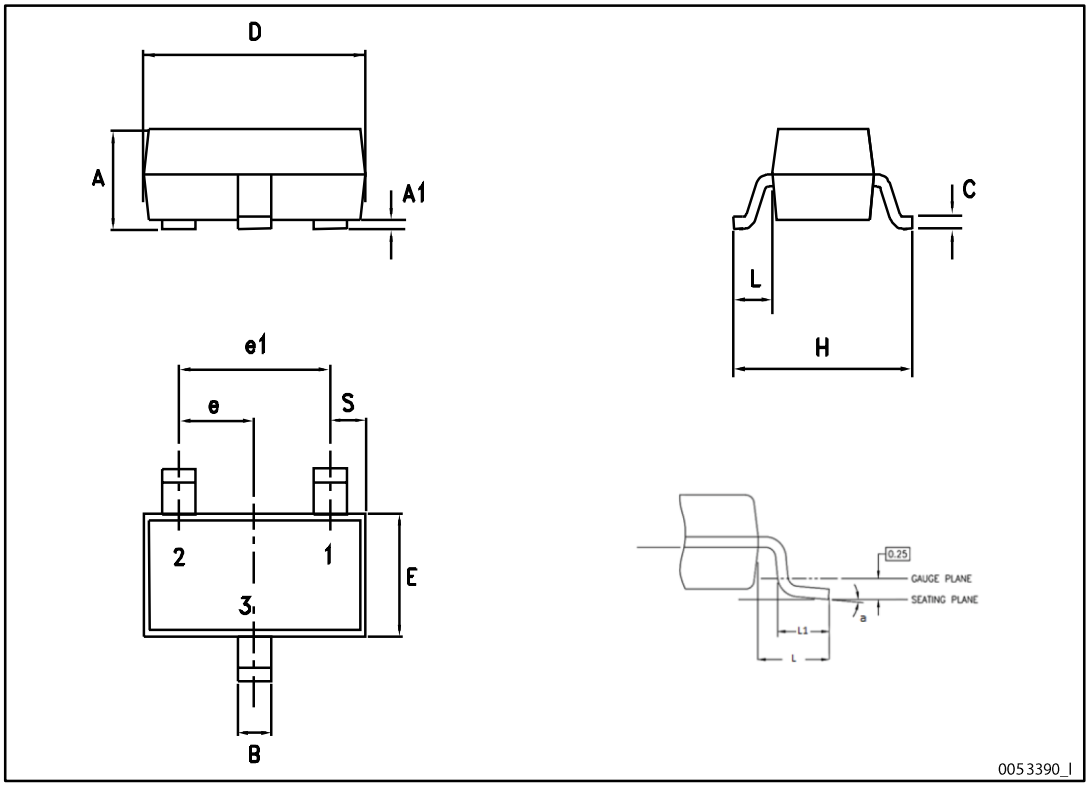
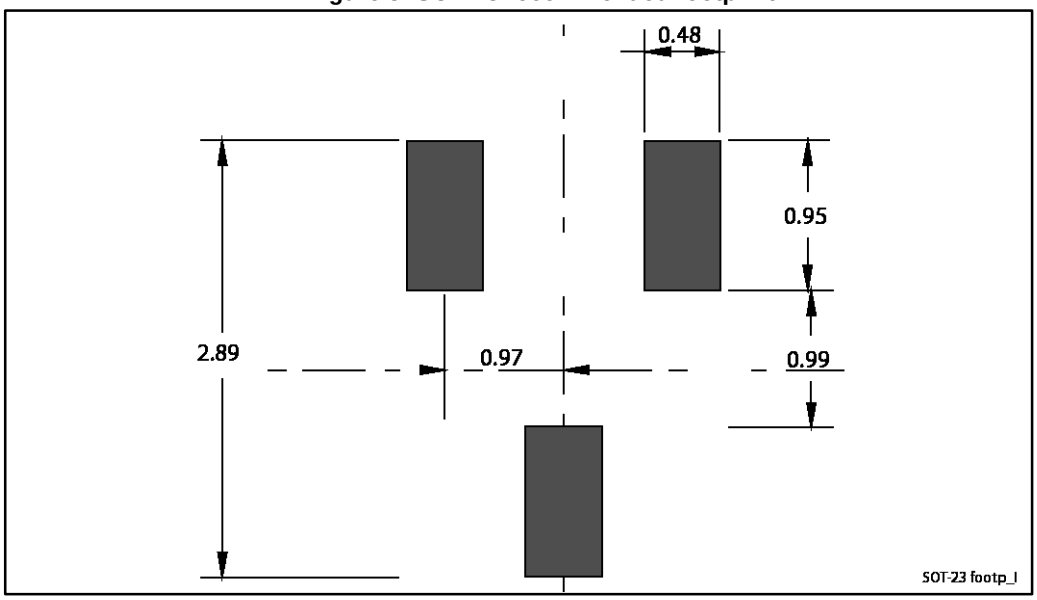


Table 5: SOT-23 mechanical data

Dim.	mm		
	Min.	Typ.	Max.
A	0.89		1.40
A1	0		0.10
B	0.30		0.51
C	0.085		0.18
D	2.75		3.04
e	0.85		1.05
e1	1.70		2.10
E	1.20		1.75
H	2.10		3.00
L		0.60	
S	0.35		0.65
L1	0.25		0.55
a	0°		8°

Figure 3: SOT-23 recommended footprint



Dimensions are in mm.

4 Revision history

Table 6: Document revision history

Date	Revision	Changes
18-Jun-2008	1	Initial release
08-May-2014	2	Updated *Section 3: "Package mechanical data"*.
13-Mar-2015	3	Updated marking in *Table 1: "Device summary"*

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